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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/505,327	08/31/2005	Simon Betson	M0025.0312/P312	3768
24998	7590	04/21/2009	EXAMINER	
DICKSTEIN SHAPIRO LLP			ALTUN, NURI B	
1825 EYE STREET NW				
Washington, DC 20006-5403				
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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/505,327	<b>Applicant(s)</b> BETSON, SIMON	
	<b>Examiner</b> NURI ALTUN	<b>Art Unit</b> 3657	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2009.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 5-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **DETAILED ACTION**

Amendment received on 01/23/2009 has been acknowledged. Claims 1, 5 and 9 have been amended. Claim 4 has been cancelled.

#### ***Specification***

Previous objections to the specification have been overcome.

#### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 9 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 9 element “means for moving the load bearing portion” is a means (or step) plus function limitations that invokes 35 U.S.C. 112, sixth paragraph. However, the written description fails to clearly link or associate the disclosed structure, material, or acts to the claimed function such that one of ordinary skill in the art would recognize what structure, material, or acts perform the claimed function. The means for moving the load bearing portion is not clearly specified in the disclosure.

Applicant is required to:

(a) Amend the claim so that the claim limitation will no longer be a means (or step) plus function limitation under 35 U.S.C. 112, sixth paragraph; or

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(b) Amend the written description of the specification such that it clearly links or associates the corresponding structure, material, or acts to the claimed function without introducing any new matter (35 U.S.C. 132(a)); or

(c) State on the record where the corresponding structure, material, or acts are set forth in the written description of the specification that perform the claimed function.

For more information, see 37 CFR 1.75(d) and MPEP §§ 608.01(o) and 2181.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims **1, 8 and 9** are rejected under 35 U.S.C. 102(b) as being anticipated by **Schulze-Beckinghausen (6,322,472)**.

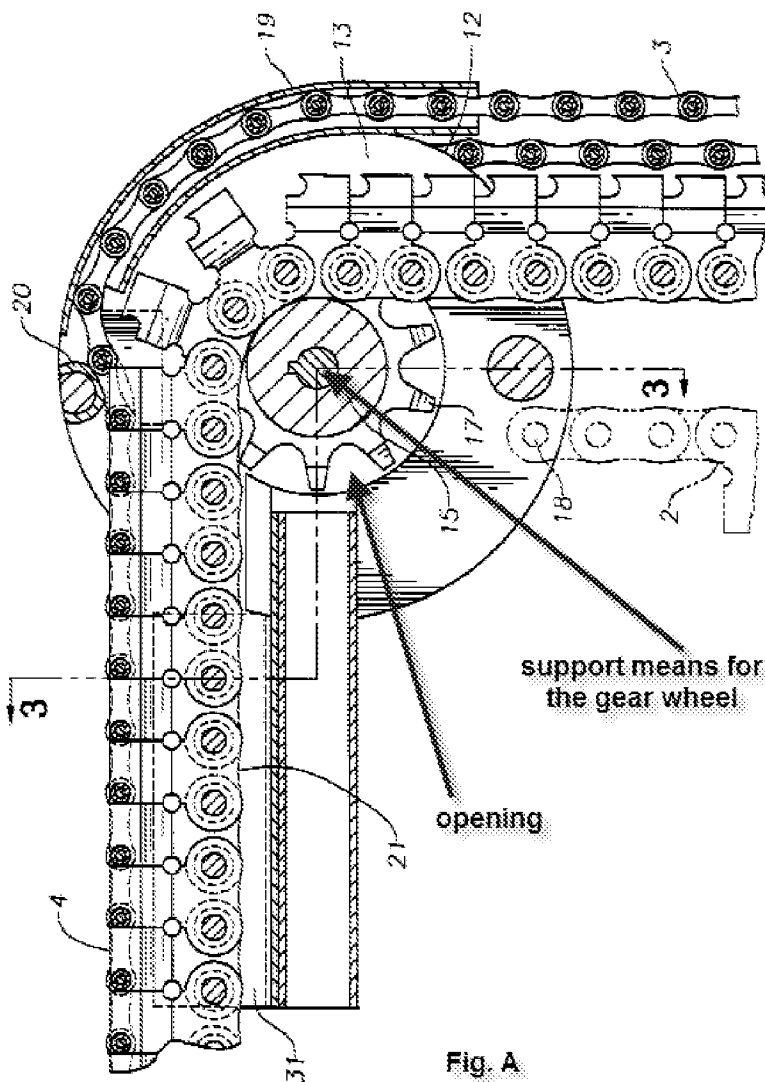
**As per claim 1**, Schulze-Beckinghausen teaches an actuator comprising a series of elements (2, 3, 7) each rotatable relative to the next (see Fig. 2), a housing (13) accommodating at least part of the series of elements with one end of the series projecting freely beyond an exit of the housing (col.2, lines 43-44),

the elements being guided to follow a non-linear path to the exit (see Fig. 2),  
means (14) for driving the series of elements relative to the housing to vary the total length of elements projecting beyond the exit (col.2, lines 48-50, also see Fig. 2),  
and means (5,6,8,9,33) for maintaining the projecting elements in linear alignment in a substantially rigid, column (col.2, lines 29-31, also see Fig. 3 and 4).

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wherein the elements are hollow (the interior of the chain links is interpreted as the hollow portion of the elements) and the drive means including at least one gear wheel (15) located inside the elements as they pass through the housing and which drivingly engages an inside surface of the elements (see Fig. 2),

the elements having an opening on one side which allows passage of a support means for the gear wheel (see Fig. A).



**As per claim 8**, Schulze-Beckinghausen teaches the actuator comprising a sprocket wheel (15) which engages with and guides the elements.

**As per claim 9**, Schulze-Beckinghausen teaches a device (see title) for moving a load comprising a base portion (8) and a load bearing portion (7) and means (7) for moving the load bearing portion, a housing (13) accommodating at least part of the series of elements with one end of the series projecting freely beyond an exit of the housing (col.2, lines 43-44),

the elements (2) being guided to follow a non-linear path to the exit (see Fig. 2),  
means (14) for driving the series of elements relative to the housing to vary the total length of elements projecting beyond the exit (col.2, lines 48-50, also see Fig. 2),  
and means (5,6,8,9,33) for maintaining the projecting elements in linear alignment in a substantially rigid, column (col.2, lines 29-31, also see Fig. 3 and 4).

wherein the elements are hollow (the interior of the chain links is interpreted as the hollow portion of the elements) and the drive means including at least one gear wheel (15) located inside the elements as they pass through the housing and which drivingly engages an inside surface of the elements (see Fig. 2),

the elements having an opening on one side which allows passage of a support means for the gear wheel (see Fig. A).

3. Claims **1-5 and 9** are rejected under 35 U.S.C. 102(b) as being anticipated by **Hormann (4,726,247)**.

**As per claim 1**, Hormann teaches an actuator comprising a series of elements (14) each rotatable relative to the next, a housing (6) accommodating at least part of the

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series of elements with one end of the series projecting freely beyond an exit of the housing, the elements being guided to follow a non-linear path to the exit (see Fig. 1),

means (4) for driving the series of elements relative to the housing to vary the total length of elements projecting beyond the exit,

and means (7, 8, 21) for maintaining the projecting elements in linear alignment in a substantially rigid, column (see Figs. 1 and 7).

wherein the elements are hollow (the interior of the segments is interpreted as the hollow portion of the elements) and the drive means including at least one gear wheel (4) located inside the elements as they pass through the housing and which drivingly engages an inside surface of the elements, the elements having an opening on one side which allows passage of a support means for the gear wheel (see Figs. 1 and 7).

**As per claim 2**, Hormann teaches the maintaining means comprising a flexible, substantially inelastic toothed belt (21) which is brought progressively into positive engagement with the elements (7) as they rotate into alignment with the column (See Fig. 7).

**As per claim 3**, Hormann teaches the elements being pivotally coupled each to the next along one edge of the series of elements (col.2, lines 60-61).

**As per claim 5**, Hormann teaches each element having a helically-threaded bore (col.3, lines 24-30 and see Figs. 1 and 7) whose axis, when the element is in the linearly aligned column, is coaxial with other such bores in the column to form a continuous helical thread along the column, and wherein the gear wheel comprises a worm gear (4)

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disposed at the free end of a drive shaft (11) whose rotational axis is coaxial with that of the bores in the column, the worm gear (4) meshing with at least one element (14) in the column at any one time such that rotation of the worm gear increases or decreases the length of the column according to the direction of rotation of the worm gear (see Fig. 1; it is inherent that rotation of worm gear will move the elements and therefore change the length of the column), each element having a side opening for passage of the drive shaft to allow each element to join or leave the column by rotation relative to the next element (see the entrance and exit areas in Figs. 1 and 7).

**As per claim 9**, Hormann teaches a device for moving a load comprising a base portion (6) and a load bearing portion (21) and means (21) for moving the load bearing portion, a housing (6) accommodating at least part of the series of elements with one end of the series projecting freely beyond an exit of the housing, the elements being guided to follow a non-linear path to the exit (see Fig. 1),

means (4) for driving the series of elements relative to the housing to vary the total length of elements projecting beyond the exit,

and means (7, 8, 21) for maintaining the projecting elements in linear alignment in a substantially rigid, column (see Figs. 1 and 7).

wherein the elements are hollow (the interior of the segments is interpreted as the hollow portion of the elements) and the drive means including at least one gear wheel (4) located inside the elements as they pass through the housing and which drivingly engages an inside surface of the elements, the elements having an opening on



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one side which allows passage of a support means for the gear wheel (see Figs. 1 and 7).

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims **2, 3, 6 and 7** are rejected under 35 U.S.C. 103(a) as being unpatentable over **Schulze-Beckinghausen (6,322,472)**, in view of **Schneeberger (4,900,294)**.

**As per claim 2**, Schulze-Beckinghausen teaches the maintaining means comprising a flexible, substantially inelastic chain (3) which is brought progressively into positive engagement with the elements (2) as they rotate into alignment with the column, but doesn't explicitly disclose a toothed belt.

Schneeberger teaches a drive mechanism having a toothed belt (30).

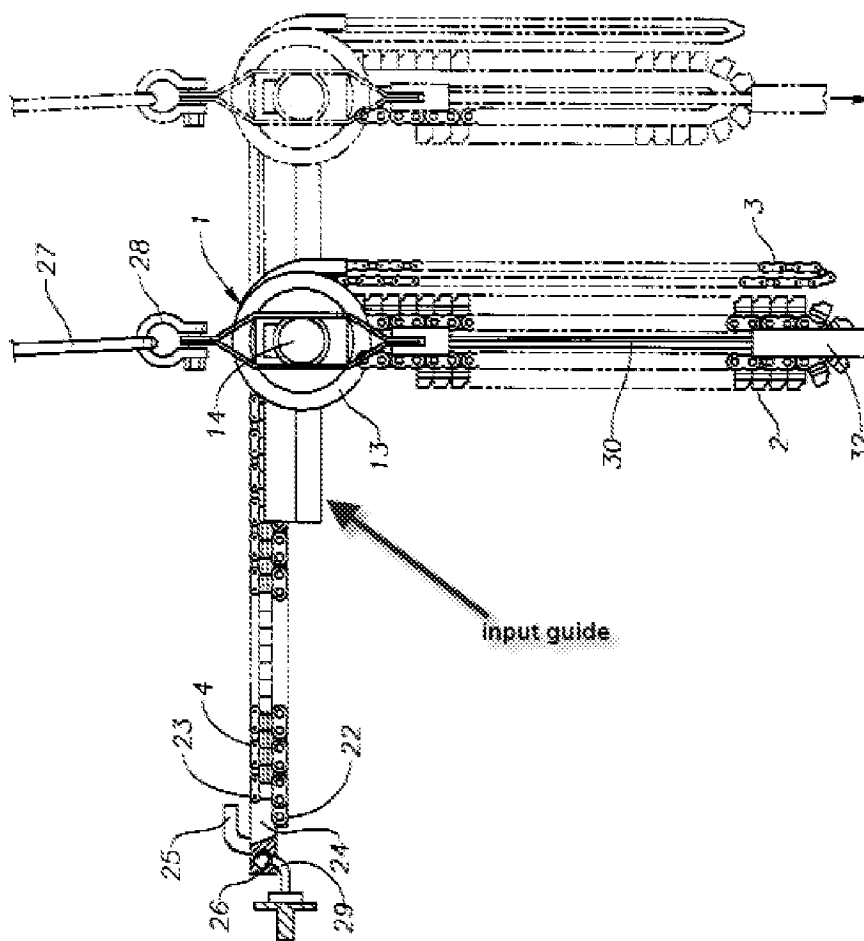
Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Schulze-Beckinghausen to include the toothed belt taught by Schneeberger in order to provide a simple substitution of one known element for another to obtain predictable results.

**As per claim 3**, Schulze-Beckinghausen teaches the elements being pivotally coupled each to the next along one edge of the series of elements (col.3, lines 46-49; since the plates, which are a part of the elements, are pinned to the links, the elements are construed to be coupled to each other along the edges).

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**As per claim 6**, Schulze-Beckinghausen teaches the series of elements entering the housing through an input guide (see Fig. B), but doesn't explicitly disclose it being rotatable relative to the housing over a range of angles relative to the linearly aligned column.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the input guide to be rotatable relative to the housing in order to allow for different orientations of the elements during entering.



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**As per claim 7**, Schulze-Beckinghausen teaches the elements (2) being engaged by the chain (3) in the input guide whereby the elements are maintained in linear alignment prior to entering the guide, but doesn't explicitly disclose a belt.

Schneeberger teaches a drive mechanism having a belt (30).

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Schulze-Beckinghausen to include the toothed belt taught by Schneeberger in order to provide a simple substitution of one known element for another to obtain predictable results.

### ***Response to Arguments***

Applicant's arguments with respect to claims 1-3 and 5-9 have been considered but are moot in view of the new ground(s) of rejection.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Pierce (2,574,657).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to NURI ALTUN whose telephone number is (571)270-5807. The examiner can normally be reached on Mon-Fri 7:30 - 5:00 with first Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Siconolfi can be reached on (571) 272 7124. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Bradley T King/  
Primary Examiner, Art Unit 3657

NBA